

In the Specification:

On page 1, after the title insert the following:

**RELATED APPLICATIONS**

This is a U.S. national stage of International patent application No. PCT/FR02/04549, filed on 24 December 2002.

**FIELD OF THE INVENTION**

On page 1, before line 8, insert the following heading:

**BACKGROUND OF THE INVENTION**

On page 1, before line 18, insert the following heading:

**SUMMARY OF THE INVENTION**

On page 1, amend the paragraph beginning on line 18 as follows:

The One object of the present invention is ~~then~~ to create a database of sound signals, each sound signal being characterized by one fingerprint such that being given a unknown sound signal that is characterized in this same fashion, a search can be executed and a rapid comparison of the fingerprint of said unknown signal made with the universe of fingerprints in the database.

On page 2, insert the following paragraph before line 3:

This and other objects are attained in accordance with one aspect of the present invention directed to a method for characterizing, according to specific parameters, a sound signal  $x(t)$  evolving over the time  $t$  during a duration  $D$  into different bands of frequencies  $k$  and then recorded  $x(k, t)$ . The signal  $x(t)$  is stored. The energy  $E(k, t)$  of the signal  $x(k, t)$  is calculated and stored for each of the frequencies  $k$ ,  $k$  varying from 1 to  $K$  and according a temporal window  $h(t)$  of a duration of  $2N$ . The energy  $F(k, j, t)$  and the related phase  $\phi(j, k, t)$  of  $E(k, t)$  are calculated and stored for the bands of frequencies  $j$ ,  $j$  varying from 1 to  $J$ , using a temporal window  $h'(t)$  of a duration of  $2N'$ , the  $J \times K$  values of the energy  $F(j, k, t)$  and of the related phase  $\phi(j, k, t)$  thus obtained constituting the specific parameters of an extract of a duration of  $2N'$  of the sound signal  $x(t)$ . Then, this calculation is reiterated at regular intervals in order to obtain the universe of the specific parameters for the duration  $D$  of the sound signal  $x(t)$ .

On page 3, amend the paragraphs beginning on lines 8 and 21 as follows:

The ~~object of the invention is~~ can involve a method for characterizing in accordance with specific parameters a sound signal  $x(t)$  evolving according to the time  $t$  over a duration  $D$  in different bands of frequencies  $k$  and then written  $x(k, t)$ , principally characterized in that it consists of storing the signal  $x(t)$ , calculating the energy  $E(k, t)$  of said signal  $x(k, t)$  for each of said bands of frequencies  $k$ ,  $k$  varying from 1 to  $K$  and according to a temporal window  $h(t)$  of a duration of  $2N$ , storing the values of the energy  $E(k, t)$  obtained, these values constituting the specific parameters of an extract of a duration of  $2N$  of the sound signal  $x(t)$  and reiterating this calculation at regular intervals,

in order to obtain the universe of specific parameters for the duration  $D$  of the sound signal  $x(t)$ .

In addition, ~~it consists of~~ the method can include calculating and storing the energy  $F(k, j, t)$  of  $E(k, t)$  for the bands of frequencies  $j$ ,  $j$  varying from 1 to  $J$ , according to a temporal window  $h'(t)$  of a duration of  $2N'$ , the  $J \times K$  values of the energy  $F(j, k, t)$  obtained constitute the specific parameters of an extract of a duration of  $2N'$  of the sound signal  $x(t)$  and reiterating this calculation at regular intervals, in order to obtain the universe of specific parameters for the duration  $D$  of the sound signal  $x(t)$ .

On page 4, amend the paragraphs beginning on lines 1, 6, 12, 18, and 24 as follows:

~~It may consist of~~ The method can include calculating the phase  $P(j, k, t)$  of the energy  $E(k, t)$  for the bands of frequencies  $j$ ,  $j$  varying from 1 to  $J$  with  $j$  being different from  $k$ , and including the values of the phase  $P(j, k, t)$  obtained among the specific parameters of the sound signal  $x(t)$ .

~~It can also consist of~~ The method can include calculating the mean value of the energy  $E(k, t)$  over  $2N'$  seconds for each frequency band  $j$ , in reiterating this calculation at regular intervals, in order to obtain the universe of specific parameters for the duration  $D$  of the sound signal  $x(t)$  and including the mean values so obtained among the specific parameters of the sound signal  $x(t)$ .

According to one feature, ~~it consists of~~ the method can include taking into account the specific parameters of a sound signal  $x(t)$  as the components of a vector representing  $x(t)$ , of positioning the vectors in a space of as many dimensions as there

are parameters, of defining classes including the most proximate vectors and of recording said classes.

The classes having inter-class distances and intra-class distances, the method ~~consists advantageously of~~ can include selecting from among the specific parameters those parameters making it possible to obtain the relatively large inter-class distances with respect to of the intra class distances and of recording the selected parameters.

~~The~~ Another aspect of the invention relates ~~also~~ to a device for identifying a sound signal, ~~characterized in that it~~ and such device comprises a database service comprising means for implementing the method for characterizing a sound signal according to specific parameters as described hereinbefore and the means for executing a search for said signal in the database.

On page 5, delete the paragraph beginning on line 9 in its entirety, and before line 13, insert the following heading:

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

On page 6, before line 7, insert the following heading:

#### **DETAILED DESCRIPTION OF THE DRAWINGS**